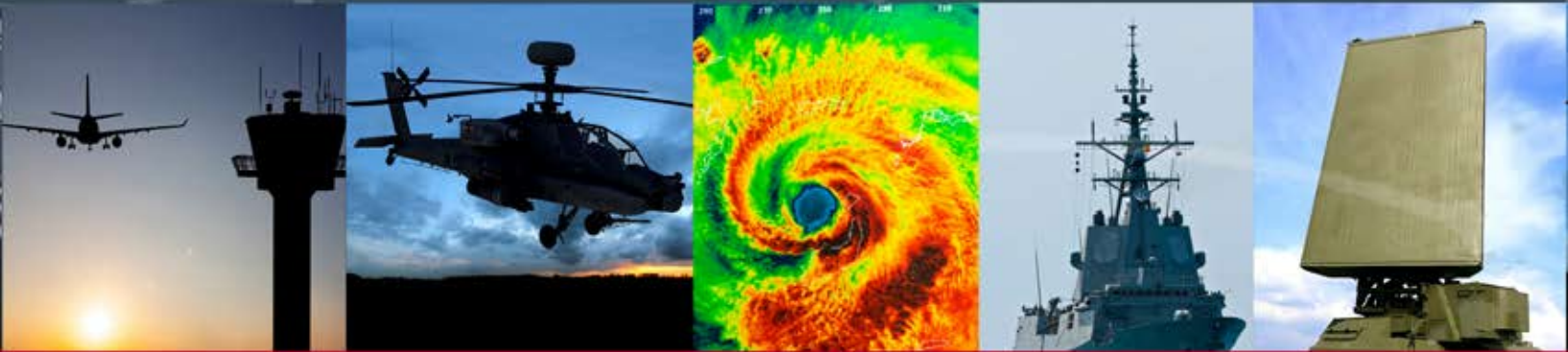


Microwave Products

For radar and electronic warfare,
communications, medical and scientific applications



Beverly Microwave Division

150 Sohler Road • Beverly, MA USA 01915

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Commercial & Industrial

CPI BMD is a major supplier of microwave and millimeter-wave components and subsystems generating and controlling RF power in radar systems and radar-based sensors.

Air Traffic Control Radar

- Air Surveillance Radar
- Air Route Surveillance Radar
- Surface Movement Radar
- Terminal Doppler Weather Radar (TDWR)
- Precision Approach Control and Landing Systems

Linear Accelerators

- Image-guided radiosurgery
- Intensity Modulated Radiation Therapy (IMRT)
- Cargo screening



Scientific

- SLAC Linac Coherent Light Source II (LCLS-II)
- European X-ray Free Electron Laser
- Spallation Neutron Source (SNS) Superconducting Accelerator
- International Fusion Materials Irradiation Facility (IFMIF)
- Cornell Energy Recovery LINAC (ERL)

Proven technology...



Radar & Electronic Warfare

CPI Beverly products are found in military radar systems around the world.

Airborne Radar, ECM and Missile Seeker

- Navigation
- Terrain following
- Ground mapping
- Air and ground surveillance
- Weapons control
- Anti-ship missiles
- Cruise missiles
- Air defense systems
- Missile defense systems

Naval Radar

- Naval surveillance
- Navigation
- Fire control
- Shipboard defense systems
- Air traffic control
- Aircraft landing systems
- Shipboard defense systems
- Airborne surveillance



Ground-based Radar:

- Air defense radars
- Missile control
- Radar simulators
- Air surveillance and tracking
- Range tracking
- Satellite tracking systems
- Ground and sea surveillance
- Artillery locating systems

***..in new designs, legacy sustainment,
and upgrades***





Communications & Power Industries Beverly Microwave Division

CPI's Beverly Microwave Division (BMD) designs and manufactures a broad range of RF and microwave products for radar, communications, electronic warfare, medical and scientific applications.

CPI BMD is the world's largest manufacturer of receiver protectors and related products; magnetrons, TWTs, CFAs, transmitters, solid state power amplifiers, scientific systems, high-power solid state switches and switch assemblies, pressure windows, and a wide variety of multifunction components and integrated microwave assemblies. Our products are found in numerous radar systems operated by the U.S. military, as well as many militaries operated by other countries around the world.



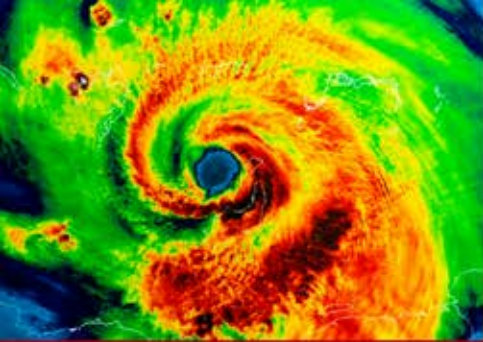
In-house capabilities include:

- Full spectrum RF and microwave circuit design
- State-of-the-art computer modeling
- Extensive high-power test facilities
- Automated test systems
- Clean room chip and wire assembly

Facilities Include:

- Full machine shop
- Complete plating lab
- Furnace and RF brazing
- Welding
- Glass shop/glass to metal seals
- Ceramic metalization
- Vacuum processing
- Environmental testing
- Class 10, 1000 and 100,000 clean rooms

Located in Beverly, Massachusetts since 1947, CPI Beverly Microwave Division is proud of the reputation that it has earned as one of the world's premier microwave companies and certified to ISO9001: 2015 and AS9100: 2016.



Solid State Power Amplifiers

- High gain
- Excellent pulse fidelity
- Outstanding spectral performance



- Gallium Nitride transistor technology
- Air- or liquid-cooled
- Hermetically sealed for harsh environments
- Pulsed up to 20% duty
- Designed for demanding applications
- Frequencies from 1 GHz to 10 GHz
- Power levels from 1 kW to 50 kW

Transmitters, Modulators and Power Supplies

- Fully integrated systems
- 19-Inch rack mount versions
- Airborne, naval & ground applications
- Wide RF bandwidth



- Magnetron transmitters
- Klystron transmitters
- Helix & CCTWT amplifiers
- IOT transmitters
- Gyrotron transmitters
- High voltage power supplies
- Frequencies from 1 GHz to 40 GHz
- Power levels from 100 W to 2 MW



Integrated Microwave Assemblies (IMAs)

- High power handling
- Low-noise figure
- Calibrated couplers
- Variable attenuation



- Integrated assemblies
- Receivers
- Upconverters
- Pulse compressors
- Voltage-controlled oscillators
- Low-noise amplifiers
- Switches
- Multifunction components
- Frequencies from 100 MHz to 40 GHz

Receiver Protectors Control Components

- Fast switching time
- High peak power
- Very fast recovery times
- Low output leakage
- Superior broadband isolation



- Active and passive receiver protectors
- Solid state, plasma, ferrite limiters
- Multipactors
- High power solid state switches
- Duplexers
- Digital or analog attenuators
 - Waveguide, coax, or microstrip
- Pressure windows
- Frequencies from 100 MHz to 40 GHz
- Power levels from milliwatts to megawatts



Beverly Microwave Division

150 Sohier Road • Beverly, MA USA 01915
+1(978) 922-6000 • BMDmarketing@cpii.com
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Power Tubes

Magnetrons

Crossed Field Amplifiers (CFAs)

Ring Loop Traveling Wave Tube (TWTs)

- High power handling
- Long life
- Exceptional frequency stability



- Coaxial magnetrons
- Frequency agile magnetrons
- Beacon magnetrons
- Injection locked magnetrons
- Frequencies from 1 GHz to 35 GHz
- Power levels from 100 W to 35 MW

Power Couplers

- Proven designs
- Full class 10(ISO-4) cleaning & assembly
- Vast expertise building an array of power couplers and electron devices



- Power couplers for:
 - Superconducting accelerators
 - Free electron lasers
 - Spallation neutron sources
 - Energy recovery LINACs
 - Third harmonic cavities
- Frequencies from 175 MHz to 3.9 GHz
- Power levels from 5 kW to 1 MW

Communications & Power Industries LLC

Beverly Microwave Division (BMD)

150 Sohler Road • Beverly, MA USA 01915
+1(978) 922-6000
BMDmarketing@cpil.com
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Designs and manufactures RF and microwave products for radar, communications, medical and scientific applications.

Contact Beverly Microwave Division for information on updating your radar systems.

Microwave Power Products Division (MPP)

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Develop and manufacture technologically superior, competitively priced, microwave vacuum electron devices; a broad array of microwave vacuum electron devices spanning the power/frequency spectrum.

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www.cpii.com/satcom

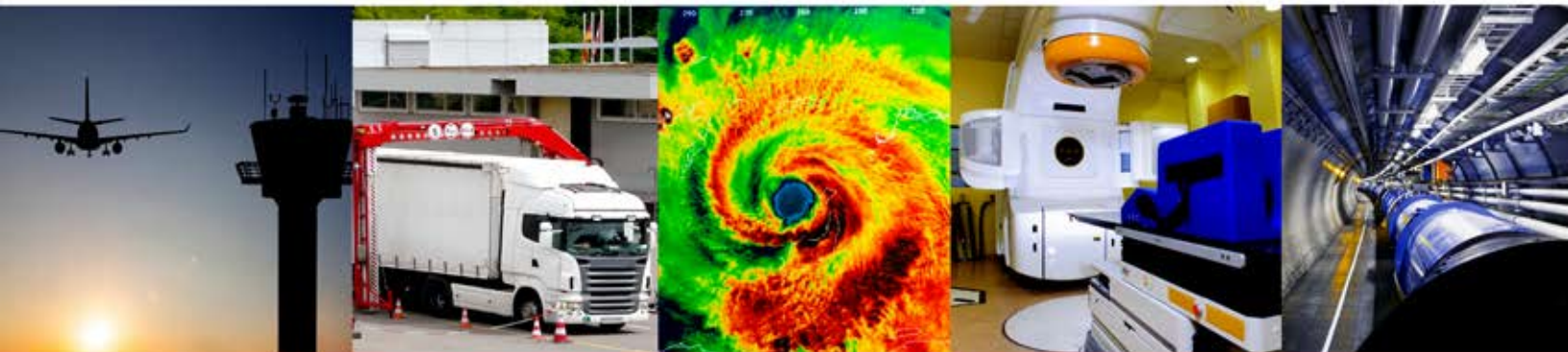
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Radant Technologies Division

255 Hudson Road • Stow, MA USA 01775-1446
+1(978) 562-3866
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Designs, manufactures, and tests radomes, Radant lens electronically steerable antenna, reflectors and structural composite products for use in high-performance airborne, ground-based, shipboard and submarine installations.

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Antenna Systems Division (ASD)

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606 Beech Street West
Whitby, Ontario, Canada L1N 7T8
+1(905) 665-4300
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A multi-national manufacturer of high-performance, engineered satellite Earth stations; radar and HF antenna systems; design, analysis and manufacture of telemetry, communications, electronic warfare and radar antenna systems.

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Malibu Operations

3760-A Calle Tecate
Camarillo, CA USA 93012-5060
+1(805) 383-1829
Malibu.Sales@cpil.com • www.cpii.com/ASD

Orbital Systems Operations

3807 Carbon Road
Irving, TX USA 75038-3415
+1(972) 915-3669
Orbital.Sales@cpil.com • www.cpii.com/ASD